

Annex I

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**Internal Review of Nouabale-Ndoki Project
After Completion of Project Year Two**

**USAID
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Introduction

The Congo Forest Conservation Project (CFC), locally referred to as the Nouabale-Ndoki Project, completed year two of operations as of 30 Oct 1993. Despite a considerable amount of political turmoil in the Congo in the past two years, and the unavoidable difficulties associated with project start up in a very isolated area, the project has succeeded in accomplishing most of the objectives originally proposed for this period. After two years of operation we are in a good position to assess where we have succeeded, where we have been less successful, and more importantly, what we can do to improve the project in the future. There have been many changes in the Congo in the past two years. For example, the Minister of Water and Forests has been replaced seven times since the beginning of the project. Perhaps more importantly, the mission of the ministry has been altered significantly several times; these changes affecting the policy on the environment, fisheries, animal husbandry, agriculture, and biodiversity. In view of these and many other vicissitudes in the country that could not have been anticipated at the beginning of the project, a reassessment of project objectives is desirable at this time.

In the following we outline proposed project activities and what has been accomplished to date. Suggestions are made for the subsequent phases of the project. Specific accomplishments as they have been achieved since the inception of the project will not be reviewed here other than in general terms. For details please refer to project reports which have been submitted to USAID every three months since the project's inception.

Project Goal

As stated in the project proposal, the goal of CFC is to improve the capability of the government of the Congo to manage and conserve its natural forest. This overall goal is still relevant in the current context of Congo, and therefore the project mission should remain unchanged.

The project objectives are as follows:

- 1) Creation and development of Nouabale-Ndoki National Park.
- 2) Biological and forestry surveys/assessments.
- 3) Training in forest conservation and forestry management.
- 4) Formulating environmental strategies, especially as they relate to natural forest conservation and management.

The anticipated project outputs were as follows:

- 1) Creation of the Nouabale-Ndoki National Park.
- 2) Comprehensive management plan for the Nouabale-Ndoki National Park.

- 3) Establishment of management infrastructure for the Nouabale-Ndoki National Park.
- 4) Establishment of biological data base for the Nouabale-Ndoki area.
- 5) Strengthened institutional and professional capabilities in conservation and scientific activities for national agencies, NGO's and local communities.
- 6) Establishment of an effective national conservation education program.
- 7) Protection and biological understanding of a key elephant population and other mammal species.
- 8) Identification of other key conservation areas in need of protection in northern Congo.
- 9) Timely and effective advice to the Government of Congo (GOC) in conservation matters that will lead to more rational protection and management of Congolese forest ecosystems.
- 10) Assisting the World Bank in implementing a natural resource management plan (NRMP) that would: (a) aim at conserving an adequate percentage of virgin biotypes (b) give the GOC the tools and incentives to implement national land-use policies.

Although most of the stated objectives and anticipated results remain relevant, the current situation in the country has led us to revise our output expectations in certain areas. Furthermore, since the beginning of the project, several other projects in the environmental sector have been launched in the Congo. The list includes the EU/ECOFAC conservation project which has both a project component in Odzala National Park and a regional coordinating office in Brazzaville, the National Environmental Action Plan, the nomination and installation of an IUCN representative in Brazzaville, the GEF Conservation and Management of Protected Areas Project, and three primate reintroduction programs. We anticipate centralization and intensification of conservation activity in Congo with the initiation of the GEF project. Several other international players are also likely to begin operation at this time. Additionally, the PARCS training program, funded by USAID through the Biodiversity Support Project (BSP), is anticipated for 1994. Thus, the conservation scene has evolved very rapidly in the last two years. This leads to the conclusion that many of our projected activities at a national level are in need of reappraisal.

It is crucial to point out that the GOC has undergone a great deal of turmoil and change in the last two years. Stability will most likely remain elusive in the near future as the country makes its transition towards democracy. This should not reduce our resolve to ensure that significant progress in the environmental domain is not impeded in the coming years. As the GOC is currently struggling to pay employees' salaries (not paid in over 11 months), its ability to

maintain continuity in any program, let alone maintain the infrastructure that already exists, is uncertain. In light of these two realities, we feel that the Nouabale-Ndoki Project, while continuing to collaborate closely with GEF component executants in other areas, should focus more intensely on project area activities and base its program on a long-term involvement in the Nouabale-Ndoki National Park.

Specific project activities

A. Gazetting of Protected Area

The overall objective here was to obtain a signed reserve decree by the end of year two of project operation.

The legal process of classification of a new reserve, in this case a national park, is a complex one which involves bringing together all interest groups and obtaining a consensus. This process, except for the initial proposal which must come from the Ministère des Eaux et Forêts, must be from the bottom up. The consensus process commences with the task of obtaining the approval of populations to be directly effected by the creation of the reserve. It then proceeds to the regional government where consensus must be reached among national government representatives, regional administrators, the region's population, and the local people to be affected by the creation of the reserve. Once this is obtained the process reverts to the national government where approval for the proposal is sought from the Conseil de Ministres. In this fashion, the ministers can assure that there is no conflict of national interest by voting for or against the proposed decree. The procedure culminates with the signing of the decree by the President of the Republic thereby creating the Nouabale-Ndoki National Park (NNNP).

The original proposal was to complete this legal process in the first two years of the project. This task began with numerous meetings with Eaux et Forêts and logging interests representatives in order to delineate limits and establish the size and status of the reserve to be created. After innumerable revisions and considerable technical assistance provided by the project, a draft decree document was produced by the Ministère des Eaux et Forêts. Once this document had been procured we began lengthy negotiations with the inhabitants of villages to be affected by its contents. With the signatures of local inhabitants testifying to their approval of the creation of the park, we subsequently submitted the document for review by the regional administrators and GOC representatives dispatched from Brazzaville. A hard won consensus was eventually obtained and the draft decree was posted for public review "throughout the land" for 30 days. A similar procedure was repeated in the Likouala and the Sangha regions which culminated in a conference attended by the Prefects of the two regions, representatives from a number of interest groups including: concerned villagers, regional administrators, logging company representatives, and officials from appropriate ministries in Brazzaville. The approval and signatures of all authorities present were obtained. The process then reverted back to the national government. Several meetings were held with the minister of Eaux et Forêts and his personnel wherein minor revisions were made to the document prior to presenting it to the government. The final draft was submitted to the presidency for review, and given tentative

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approval to be passed by the Conseil de Ministres. In order to reaffirm the clarity of the decree document and its supporting documentation, a large meeting was held attended by all technicians from the Ministere des Eaux et Forets. This was then assembled into a full dossier to be presented at the Conseil de Ministres. Once the minister was satisfied, the dossier was reviewed by an interministerial committee along with technical representatives of all concerned ministries, in order to obtain consensus prior to presentation at the Conseil de Ministres. This was accomplished and the dossier was again presented to the head of the Conseil de Ministres. He gave his approval. Finally the dossier was presented before the Conseil de Ministres in late Nov. 1993 where it received unanimous approval. The only step remaining is the actual signature by the President of the Republic and by the Ministers responsible for implementing the decree. We expect that this will occur before the end of January 1994.

Given the backdrop of considerable civil unrest, governmental turmoil, and changes in the administrations, it is no small wonder that we were able to accomplish the entire legal process of reserve classification--an enormous task even under normal conditions--in the prescribed time. The fact that the process went so smoothly at all levels indicates a great deal of support for the project at a local, regional and national levels. We are very pleased with the achievements made in pursuit of this objective. The decree document, once signed, will establish the first national park created by the Republic of Congo as well as the first reserve area in northern Congo.

Recommendations:

Follow up must be made in Brazzaville, with perhaps a high level meeting between the President and the U.S. Ambassador with a representative from the project (preferably the Director) to obtain the final signature of the decree document.

Once signed a large reception will be held in order to celebrate this accomplishment. We hope that the U.S. Ambassador and the Minister of Eaux et Forets will host this reception.

Implementation of several clauses in the decree document should be followed up as soon as possible after signature of the decree. These include: establishment of a buffer zone, proper surveying of reserve boundaries, and establishment of a document which sets forth a system of internal reserve regulations.

B. Surveys and Assessments

The objective here was as follows: "Detailed surveys and analyses will serve as a basis for the development of a management plan for the NNNP. To accomplish this goal the field-based director will coordinate the activities of a team of experts, assistants, national counterparts and Peace Corps volunteers assembled by the WCI central management and the project. This team will take a multi-disciplinary approach in the analysis of all aspects of the development of the reserve area. The resulting data will form the basis of a management plan for the area." The detailed surveys and analyses were to include data based on background, biological, economic,

and sociological surveys.

To date, headway has been made in all categories.

1) Background survey. Shortly after project initiation Marcellin Agnagna, project assistant director, was given the task of collecting all available background information concerning the project area, as per the original proposal. Subsequently Mr. Jerome Mokoko was given the same assignment. While a certain number of documents were obtained, the goal of this task is largely unachieved due to a lack of time on the part of project personnel in Brazzaville. The reinitiation of this data collection task has been hindered by continued disruptions in the functioning of the relevant ministries due to civil unrest, absenteeism, strikes, and the resulting disorganization of documentation at the ministerial level.

Recommendation:

This objective should be made a priority by the Nouabale-Ndoki Coordination office in Brazzaville. The work should be coordinated by the Project Coordinator in Brazzaville and carried out by a full-time Congolese consultant hired by the project. This consultant should be given precise terms of reference, time delays and reporting schedule.

2) Biological survey.

Thus far, several reconnaissance surveys have been carried out in the reserve as follow:

J. M. Fay. 1993. A SURVEY OF THE PROPOSED NOUABALE CONSERVATION AREA IN NORTHERN CONGO.

J. M. Fay. 1993. A SURVEY SOUTHEAST OF THE PROPOSED NOUABALE NDOKI NATIONAL PARK CONSERVATION AREA, NORTHERN CONGO.

Because of the proximity of the Dzanga-Sangha Reserve to the NNNP, and its crucial importance to the future management of NNNP, Fay undertook a consultancy with GTZ to look at development and conservation options in that reserve. This report was submitted in October, 1993 with the following reference:

J. M. Fay. 1993. ECOLOGICAL AND CONSERVATION IMPLICATIONS OF DEVELOPMENT OPTIONS FOR THE DZANGA-SANGHA SPECIAL RESERVE AND THE DZANGA - NDOKI NATIONAL PARK, Yobe-Sangha, Central African Republic

In addition to these surveys, a two-month long study, 20 June-6 Aug 1993, was carried out in the Mbeli clearing, with project support, by Claudia Olejniczak of Washington University, USA. This study consisted of diurnal observations of all large animal activity in the clearing during the two month study period. In order to identify seasonal patterns of use in this clearing, an additional two month study is being conducted by an Eaux et Forêts agent, Mr. Massampo, and

a local technician from December to February.

During December 1993 and January 1994, a survey of the western border of NNNP was conducted by Mr. Steven Blake using methods established in previous surveys.

During March and April of 1994, an additional survey will be conducted of the northern border of the reserve along the Motaba and Mokala Rivers, also by Mr. Blake.

Philippe Hecketsweiler, a member of the GTZ component of the project, has conducted three surveys in the last year. These surveys will be synthesized in his final report to be submitted to the German Government, the GOC, and the project in early 1994. While most of the data collected in these surveys are socio-economic in nature, pertinent biological observations were also made throughout. In particular, a trip made by Dr. Hecketweiller in Nov.-Dec. 1993 from Kabo to Makao and then North to the Lofi River, thus spanning the entire eastern border of the NNNP, a distance of over 400 km.

In 1993 the BSP, financed by USAID and in collaboration with NASA and USGS, and the Dzanga-Sangha and Nouabale-Ndoki projects, produced an image map of the tri-national area, using the Landsat Thematic Mapper (TM). This document will serve as a base map for all future ground-truthing, border surveys, and reconnaissance within the reserve.

Recommendations:

Continued biological survey of the NNNP is imperative for the production of a realistic management plan for the park. It is recommended that surveys, similar to those currently being conducted by Steve Blake, be conducted in other specific areas within the reserve. These surveys should be conducted on a timely basis either by an experienced expatriate volunteer or researcher and or Congolese researchers. Thus far, no Congolese, with the exception of Marcellin Agagna, with a sufficient level of forest skills and education has been identified for this type of survey. Marcellin Agagna has accompanied M. Fay on all previous trips into the forest. When time restraints permit, M. Fay and M. Agagna will assist in continued survey work.

It is necessary to clarify, via terms of reference and scheduling, the scope and locations of future surveys.

3. Economic Survey.

Dr. Philippe Hecketsweiler has addressed many of the questions pertinent to economic surveys completed in each of the three communities which surround the reserve. As mentioned above, the results of these studies will be available in report form by early 1994 .

As far as the project direction is concerned, the questions to be addressed in this analysis are of the utmost importance to the creation and sustainability of the national park. Concerns,

dangers and criticisms similar to those addressed at some length in the report on Bayanga, may be relevant to the Nouabale-Ndoki Project if caution is not exercised in the development of economic activities in the region. All project development including tourism, research, staffing levels, government participation, funding levels etc. must take into account the economic ramifications they will have on the project. The same conclusion was made by the Japanese team from Kyoto University working in Makao.

The CFC project contributes over \$3,000 to the local economy every month in Bomassa, the project base. This amount will increase with the expansion of research and tourism. Project management has been extremely careful in its hiring practices and expends much time and energy to monitor immigration, population growth of the village, and influx of funds. It is imperative that this remain the principal criterion guiding development of all local project activities.

Recommendations:

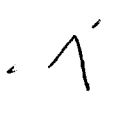
It is advisable that a study be conducted by an independent consultant on the economic ramifications of conservation efforts in northern Congo as it relates to the Nouabale-Ndoki Project and as described in the original project proposal. A blue print should be drafted by project staff and local people which will formalize hiring practices in order to regulate financial input to the local economy, development, immigration, and other factors. A less than calculated approach may stymie our efforts to implement an effective conservation program which will not negatively effect the local economic equilibrium. Failure to abide by this principal will result in compromising our conservation objectives. We must reiterate that this should be a central concern in all management decisions. It would be desirable to collaborate with the Kyoto University team on this matter.

4. Sociological Survey.

Dr. Philippe Hecketsweiller, in the three surveys that he has now conducted in all of the communities surrounding the reserve, has addressed many of the questions pertinent to sociological survey. As mentioned above the results of these studies will be available in report form by early 1994. The results of the three above mentioned reports by Fay contain data pertinent to this question. Tom Sweeney, the Peace Corp Volunteer who was to head the conservation education program for the project in Bomassa, collected a considerable amount of sociological data pertaining to the Bomassa area at the outset of project operations. Similar surveys were conducted in Makao throughout most of 1992 by the Japanese team and should be available to the project in the near future. We have twice requested these data from Dr. Ichikawa, the head of the Kyoto anthropology team, but we have yet to receive them.

Recommendations:

It is suggested that a study be made with respect to the social ramifications of the park project on local peoples by an independent consultant thereby concluding how best to integrate the two.



As discussed in the above mentioned reports by Fay, whilst current human population pressure in the Nouabale-Ndoki Park is minimal compared to many reserves, growth may cause problems in the near future. The consultancy should focus on growth which has occurred since the inception of the project and ought to entail another census of Bomassa-Bon Coin and Makao. It will require a thorough understanding of the populations across the border in the CAR. This consultant should coordinate survey efforts with the Kyoto team, Michel Courtois (who works for the SNBS logging concession to the south of the reserve), as well as three individuals who work in the Dzanga-Sangha region on these issues; Louis Sarno, Tamara x, and Anna Kretsinger. The result of the consultancy should be a strategical blue print for harmonizing the local human population pressures and the existence of the NNNP.

C. Development of the Nouabale-Ndoki Management Plan.

Initially a management plan for NNNP and its buffer zones was to be produced in the first 18 months of project activity. Project management feels that this would have been extremely premature for a number of reasons: 1) Much of the necessary data for such a plan will not be available until the GTZ and reports on other project prospection missions are done. 2) The GEF project which was to commence concurrently with the USAID project is still not operational after two years. 3) The GTZ component of the project started one year late. The initial fact finding and recommendation phase has been extended to June 1994. Therefore, none of the results from this planning phase of the project will be available until then, and certainly any commitments on the part of the German government will not be known of until this time. 4) Congo is traversing a politically and economically unstable period, hence, many of the parameters which are a prerequisite for drafting a long-term management plan, change from week to week. These combined factors render premature any effort to develop a long-term park management plan.

Recommendations:

In the terms of reference to be signed by the government and NYZS/WCS in the near future, guidelines will be set down concerning the working relationship between the GOC and the GEF component of the project. A management plan is scheduled to be jointly produced after the second year of operation. This would be at the end of 1995, which is when USAID funding will be close to expiration. This would be an optimal time to present a management plan because most of the above mentioned impediments to writing the plan will have been resolved at this time. Also it will be an opportune time for reflection concerning the continuation of the project, whether it be under the eegis of USAID or another sponsor. The next two years will enable us to develop a clearly delineated strategy for the long term management of the NNNP and its buffer zones.

It is suggested that an independent consultant, using previously collected data, produce the plan in collaboration with project personnel, funding agencies, local people and researchers. If this plan is formulated as a team effort, a document could be written which reflects actual needs rather than the imposition of a potentially inappropriate theoretical blue print. The contents of

the management plan should follow those outlined in the original project proposal and ought to be published in book form.

D. Biodiversity Inventory

1. Floristics. Several steps have been made in this domain since the inception of the project. Mr. Carl Schmidt, during his study of the Gilbertiodendron dewevrei forest in 1992, collected several hundred botanical specimen for use as vouchers. These were subsequently identified by Mr. Sita, director emeritus of the national herbarium, hired by the project as a private consultant. In late 1992 a native of Bomassa was trained to collect botanical specimens in the NNNP. This individual, however, has subsequently been named the director, and sole instructor, of the project school in Bomassa.

Two meetings have been held in the past year with Dr. Porter Lowry, Director of African Programs for the Missouri Botanical Garden. Dr. Lowry expressed interest in formulating a joint training program with the Nouabale-Ndoki Project Congolese botanists. No progress has been acheived in this discussion in the last six months.

The GEF project will sponsor the national botanical institute, CERVE, via a substantial grant that will permit it to be more operational both in the field and in the national herbarium. The decision to sponsor this agency was made due to the positive recommendations of CFC and other personnel. It is very likely that Missouri Botanical Garden (MBG) will be awarded the technical assistance contract to collaborate with current director Dr. Jean-Marie Moutsambote in implementing the GEF-CERVE component. It has always been intended that CERVE would be active in NNNP and would collaborate with the CFC project in fulfilling this project component. This, however, will have to wait the initiation of the GEF project in early 1994.

Dr. David Harris, who worked with Mr. Fay just to the north of the project base in Bomassa for two years in 1987-1988, has now returned to Dzanga-Sangha. He will be completing a very thorough inventory of this reserve in the next year and a written botanical checklist will be available in a year or two. It is believed that the floristic overlap in the two reserves is probably over 90% thus, this document will serve as the basis for botanical inventory in the NNNP.

Recommendations:

It is recommended that negotiations be continued with MBG on the possibility of a joint training project. It is necessary, however, to acquire confirmation from WCS central offices concerning their desire to collaborate with MBG. A fruitful collaboration now exists between MBG and the ECOFAC project in Lope. The reserve direction provides a suitable study site and MBG provides the expertise resulting in a continually growing botanical checklist for the reserve. It is believed that this type of collaboration would be advantageous in NNNP as well.

Collaboration should continue in the final stages of the GEF agreement and CERVE. We will certainly work closely with CERVE once the funding for this project is available. The first

mission by CERVE personnel will be planned for early 1994. If at all possible, it would be desirable to hire Dr. David Harris and/or Mr. Sita, for a short simultaneous consultancy. The objective of the research would be to determine the botanical overlap between the Dzanga-Sangha and Nouabale-Ndoki Reserves. Dr. Harris and Mr. Sita can provide a great deal of technical expertise which will benefit CERVE and reserve personnel.

2. Mammalian Inventory.

- a. Duiker (*Cephalophus* spp.) populations in dense forest environments
- b. Hunting off-take and its effect on mammal populations in non-protected areas.

Again several attempts have been made to initiate these studies within the NNNP. Initially this work was to be conducted by a Peace Corps volunteer. This volunteer, Mr. Jacob Faibisch, terminated his service before he was able to provide any useful data to the project. Subsequently Ms. Elizabeth Graham, a Ph.D. student at Princeton University, became interested in these studies and was to visit the Nouabale-Ndoki project in the summer of 1993. Unfortunately, political unrest not only halted her planned trip but also her plans for further work.

At present a student, Mr. Andrew Noss, is working on a very similar project in the Dzanga-Sangha Reserve.

Recommendations:

A more rigorous research protocol should be formulated using the original Nouabale-Ndoki proposals, the Andrew Noss proposal, and current project thinking on the subject. A graduate student should be solicited who would spend a short orientation period with Mr. Noss in Dzanga-Sangha before conducting needed research in the Congo. It is supposed that this would be a good Ph.D. project.

The urgency of this study is exemplified by the intense poaching that is now occurring on the Cameroon side at Djembe, just south of Bomassa. In the coming months, Steve Blake, a volunteer working with the project, will spend six weeks collecting general data on the level of hunting on the Sangha River from Bomassa to Kobo. The results of this initial work will be available in early 1994.

- c. Large mammal observations at natural forest clearings.

As mentioned above, a study was conducted by Ms. Oljniczak in the Mbeli clearing during the summer of 1993. The Mbeli clearing is the largest of the natural clearings (bai) in the NNNP. The results of this study showed that use of this clearing is heavy, in particular by gorillas, buffalo, bush-pigs, and sitatunga. Indications are that elephants are also starting to return in greater and greater numbers. Ms. Olejniczak has submitted a report to the project entitled: Report on Western Lowland Gorilla Pilot Study at Mbeli Bai, Nouabale-Ndoki Reserve.

Northern Congo, 1993. A second study, which began in early Dec. and which will extend through Jan. 1994, is being conducted in the clearing in order to gain some knowledge of the difference between wet and dry season use. Two hides (miradors) have been constructed at good vantage points at the Mbeli clearing which provide a clear view of the entire 'bai'.

In 1993 the project was fortunate to obtain funding from the USFWS for the purchase of an airplane, a Cessna 182, for the project. The National Geographic Society has also purchased an aircraft, the "Air Cam", which was specially constructed for surveillance, research, photography, and videography. A small airstrip was cleared in Bomassa to accommodate this aircraft. It arrived in Congo in November 1993 and was flown to Bomassa, where it is now stored. It is the intent of the National Geographic Society to sell, or donate, the Air Cam to the Nouabale-Ndoki Project in mid-1994. The Cessna is scheduled to arrive in early 1994. By mid-1994 both aircraft should be operational in the NNNP and will be used to monitor a large number of forest clearings, located using GPS throughout the year with video cameras.

Recommendation:

The project plans to institute a long-term study of the Mbeli clearing with gorillas research as the primary objective. Permanent observation of all large mammals will be possible at the same time. Two video cameras will be purchased for the purposes of this study. The Mbeli clearing gorilla study will be a collaborative effort between the project, expatriate students, and Congolese experts and technicians. Discussions have been held with Kyoto primatology student Tomoaki Nishihara. He has expressed interest in participating in this project in the future though will not be available before March 1994. Indications are that if personnel are solicited for this study, either students, Congolese or volunteers, that they will be readily available.

The project will explore the usefulness of aircraft in monitoring the forest clearings. The specifics of this study should be written into the research document to be revised in early 1994. Funds are programmed in the GEF budget to carry out this research.

E. Forestry.

A Peace Corps volunteer made significant progress on this study in 1992. Studies of Sapeli-Sipo growth and stand characteristics were started in NNNP, the SNBS concession and the CIB concession in 1992 and 1993. The first study involved a sample of wood cores taken from Sapeli and Sipo trees within the CIB concession for carbon dating. Initial samples produced some rather unexpected results, i.e. dates of between 400 and 900 years. The second study involved measurement of a large sample of Sapeli and Sipo trees on the west side of the Ndoki River in a region of forest that had already been exploited. A second sample was taken in the forest to the east side of the Ndoki in virgin forest. A third sample was unattainable due to civil unrest in Congo and the subsequent departure of Peace Corps volunteers.

Recommendations:

The initial research proposals made in this domain remain viable, but can now be revised based on a clearer understanding of what is possible based on pilot studies carried out by Volunteer Schmidt. The major problem is a lack of personnel to carry them out. We suggest that initial contacts with researchers at Princeton University, who are carrying out very similar work in Bolivia, should be developed. Funds are programmed into the GEF budget to carry out this research though they are likely to be insufficient. It is probable that the GTZ budget will allocate additional funds for this research program.

Elephant Monitoring and Research

1. Population study in the Mbeli Clearing.
2. Social Relations of Forest Elephants.

As mentioned above, long-term research will begin in the Mbeli clearing sometime in 1994. Initially we have one data set of over 300 hours of observations from the months of June and July 1993. In Dec. 1993 and January 1994 a second team will log an additional ca. 300 hours of observation time. This will provide useful data as to the number of elephants visiting the clearing in daylight hours and also some data on nocturnal visitation during moon-lit nights. When the long-term monitoring study begins, while it's focus will be on gorillas, counting, identification, and activity monitoring of elephants will also be conducted. With video footage of individuals visiting the Mbeli clearing it should be possible to determine if any of the elephants visiting the Mbeli clearing have also been noted in the Dzanga clearing. We will collaborate closely with Andrea Turkalo on this research.

Over the past year visitation to the Mbeli clearing by elephants has increased, but is still well below the level that would be necessary to study elephant social behavior. Behavioral studies continue at the Dzanga clearing in the CAR. These studies are directed by the Nouabale-Ndoki Project.

Recommendations:

Several clearings have been identified in the SNBS concession to the south of the NNNP. Michel Courtois reports seeing several tens of elephants in different clearings over the past several months. If a long-term project on elephant monitoring similar to that now being done in Dzanga-Sangha is to be initiated, it will be necessary to conduct some pilot study work in the southern clearings to determine which is the most appropriate sight for this study. Were this to occur, funding and personnel would have to be procured for this project. The conservation value of a project such as this should not be underestimated.

3. Population Genetics.

In 1992 skin samples were collected from over 60 elephants in the Dzanga clearing in CAR. The results from these samples show that this population of forest elephants has no haplotypes in common with those of east and southern Africa. This would indicate that there has been no

gene flow between these two areas for a very long time. In August 1993 specimens were obtained from 30 elephants tusks that were stored at the Ministry of Eaux et Forêts in Brazzaville. It is uncertain how many of these will contain extractable DNA. They are currently being stored in St. Louis, Missouri. We have also obtained several specimens from elephants that were poached in the Odzala National Park southwest of NNNP.

In October-November 1993, with funding from the National Geographic Society, a mission was conducted to Gabon by N. Georgiadis, M. Fay, and A. Turkalo to sample a population of elephants in the Lope National Park in central Gabon. 19 skin biopsy samples were collected in ten days. These samples are also currently stored in St. Louis, Missouri. With these three sample sets, we will begin to be able to measure gene flow between populations of forest elephants. We expect the results from the Gabon specimens in the coming months. If we find that there is significant variation between the Dzanga and Gabon populations, we will then collect samples from SE Cameroon and from the SNBS elephants to the south of the NNNP. In 1994, a trip to northern Cameroon will be made, by the same team and Cameroonian counterparts in order to collect samples from the savanna regions of West Africa. These samples will reveal : 1) if there has been gene flow between West African savanna populations and those of East Africa. 2) if the West African forest and savanna elephants have similar haplotypes. If we find haplotype differences we will collect further samples from both regions in order to gain a better understanding of the evolutionary history of the savanna and forest elephant.

Recommendations:

This research is proceeding as planned. Funding has been obtained from the National Geographic Society for one further trip to Gabon and for the trip to northern Cameroon in late 1994. It is possible that one further trip to Gabon will be taken by Fay in March 1994 in order to sample a population of elephants that ranges on the beach in the Petit Louango Reserve.

4. Ranging Behavior.

Over the past year, a substantial amount of general data have been collected which verify the suspected elephant migration route from the Raphia swamps in the SE of NNNP and further to the South and the Dzanga region (see Fay and Blake reports).

In the 1994 USAID fiscal budget, funds have been earmarked for elephant research. We have also obtained an additional grant from USFWS for the same purpose. The plan for 1994 was to put two ARGOS satellite collars on two elephants in the Dzanga area to follow their annual movements. Several factors have led to discussion as to whether this should go forward. 1) There have been significant advances in GPS tracking technology in the past year and it may be possible to use this technology instead of the previously used ARGOS technology, but this will take research and development time which could jeopardize progress for the foreseeable future. 2) There are significant problems with the ARGOS collars in that readings are not always easily obtained in the forest, the morphology of elephants presents difficulties, and the power source

does not usually last beyond six months. It is believed that even if all goes well in changing the power source every six months, that it can not be assumed that the trauma caused by immobilizing an elephant does not significantly change the ranging pattern of the elephant in question for some time after the operation and perhaps much longer. 3) Unfortunately there have been two incidents in the past few years where elephants that were tagged have died. Understandably NYZS/WCS has become cautious about future work in this domain. 4) With two aircraft operational in the project, standard VHF collars could be used on elephants. The power sources on these collars usually last for about 18 months. It stands to reason that interventions with tagged elephants every 18 months, rather than every six months, is less likely to disrupt natural elephant movements.

Recommendations:

M. Fay will be visiting NY in Jan 1994 where he will hold discussions with both WCS staff and the Field Veterinary Unit about elephant collaring and the general concept of monitoring elephant movements. At this time, a decision will be made as to the direction elephant monitoring should take in the tri-national. If we decide to go ahead with the Argos PTT it should be done under the supervision of Dr. Billy Karesh and Mr. Buddy Powell, both of whom have extensive experience in this domain.

G. Environmental Education

The formal environmental education program in the Nouabale-Ndoki Project suffered a set back with the early termination of the Peace Corps volunteer, Tom Sweeney, rather early in his service in 1992. Since that time environmental education has been concentrated in the Bomassa and Makao locations as well as in Ouessou.

In Bomassa frequent meetings with the village committee, and the population, have been held since the arrival of the project. These meetings usually have an agenda centered on conservation. The most frequent topics have been elephant poaching, snare poaching, the village hunting zone, the rationale for the creation of the NNNP, the project Ndoki Road, export of meat, visiting hunters and immigration into Bomassa. On the positive side the advantages that the project has brought; permanent employment and training for the local population, the school and its reading program, creation of an infrastructure, transportation, and health care are stressed. The caveat offered regards the cessation of project presence in the area if the population does not implement the simple and fair conservation measures already agreed between the project and residents of Bomassa-Bon Coin. In general this strategy is based on frank discussion of current issues in the back drop of the overall goals of the project and what is compulsory behavior if we, the project, including the people of Bomassa-Bon Coin, are to succeed in our conservation efforts. While this system has been extremely successful we have had a few incidents where intervention due to poaching incidents was warranted. On one occasion we had a single individual "convoqué" by the Regional Eaux et Forêts authorities. On a separate occasion we sought the aid of regional immigration authorities. In general we have been extremely pleased with the progress realized at the local level. Incidents of elephant

poaching have been very rare, the hunting zone has been respected, and the road is not used except close proximity to Bomassa. There is very little export of meat from the area, and we no longer have a contingent of "foreign" poachers residing in Bomassa. Constant reiteration is nevertheless necessary, and without constant surveillance by project personnel most, if not all, of these agreements would be forsaken. Were the project to cease to exist in the near future, there is no doubt that Bomassa would revert to pre-project practices which included all of the above mentioned problems. We hope that with time the older generation will be convinced and the younger generation enlightened, but this certainly is not yet the case.

The school became operational in April 1993. This initial period has concentrated on traditional education: reading, writing and arithmetic. The students, all of whom are children of Bomassa-Bon Coin (which is something we keep a close watch on), have made amazing progress. The largest and most promising group in the student body is the Bangombe girls. The headmaster of the school, Alphonse Ngopo (who is a native of Bomassa), has attained a very high level of respect in the village and is one of the best allies of the project. He presides over all village committee meetings and can usually explain to villagers exactly why we are pressing a certain point, thereby gaining consensus.

In September 1993 the Regional Director of Education visited Bomassa, accompanied by the new Resident Minister. He expressed interest in helping us with materials and continuing education for Mr. Ngopo. In the coming months the school will be officially registered as a private institution administered by the project.

The new school year will see some changes in the curriculum. By mid-year the students will probably have reached a point where they can read and write rudimentary sentences, and are beginning to get reading and composition assignments. It is our intent to integrate a strong conservation message into the curriculum. Ms. Heather Eves, a conservation educator working on a Fulbright Scholarship in East Africa, will be visiting Bomassa in the month of Dec. 1993 to write a draft proposal for conservation curriculum in the school and a general, village-based, conservation education program for Bomassa and Makao.

Project activity in Makao was commenced in Sept. 1993 by Marcellin Agnagna, project assistant director. Mr. Agnagna, whose mother is from Makao, initiated village committee meetings which focus on the same issues as in Bomassa. We hope to initiate the same type of school program there as well. A school already exists in Makao though it has not functioned for some time. CFC will rehabilitate this school to a certain extent and initiate a program there shortly after the GEF funds become available. Because of the much greater population of Makao and the intensity of hunting by the villagers there, in particular of elephants, the task set before us there is much greater.

Through the work of project assistant director Marcellin Agnagna, the project promoted the creation of an NGO called Sangha Action Biodiversité (SAB) based in Ouesso. The objectives of this organization are to promote conservation at many levels in the region. With a minimum of supervision SAB took over a small part of a strategically-placed building in Ouesso and

initiated a poster campaign as well as a few other activities. The project is attempting to assist the association through the donation of *Ngouvou*, an educational newspaper produced in Brazzaville with funds from the French Govt. The proceeds help defray the costs of rent etc. for the association. In the recent past, however, we have had requests for direct aid to the association in the form of rental payments and employment for association officers. The project has declined this because we do not want SAB to become a project association. We have had several meetings with the association and while the members are perfectly willing to participate in conservation activities, they have yet to show any initiative themselves.

At the national level the project has worked mostly through mass media and the project bulletin to spread the conservation message. We have had many interviews on the national radio since the beginning of the project and several appearances in the national television. An initial documentary was produced in Brazzaville and aired by TV Congo in October 1993. In Dec. 1993 the same TV crew visited Bomassa to shoot a documentary about the NNNP and our work in the region. Two programs are scheduled to be televised in December 1993 and January 1994.

The project newsletter has been coming out since the beginning of the project, with five issues produced thus far. The focus of the newsletter is not only on project activities, but also on general conservation issues that concern all Congolese. The bulletin is distributed for free and the subscription list continues to grow. In Nov. 1993 an attempt was made to publish a joint conservation newsletter with the EU\ECOFAC regional program. It is likely that we will go back to producing the Nouabale-Ndoki focussed bulletin in the future.

In a more general sense at the local, national and regional levels it is certain that the Nouabale-Ndoki Project has brought conservation to the forefront of discussion. We were the first conservation project operational in Congo, and we are forever emphasizing the importance of conservation to people on all levels. While the impact of this type of awareness campaign is great it is rather unquantifiable and undoubtedly has a positive effect.

Recommendations:

While we have made considerable progress in the domain of conservation education at the local, regional and national levels, considering that we lost our Peace Corps volunteer early on, most progress is hard to quantify. During the evaluation an attempt should be made to formalize the conservation education program. It is our judgment that what we have been doing is extremely effective and efficient, but it lacks structure. The visit by Ms. Heather Eves in December 1993 and her resulting report should help in this respect. The most pressing issues to be addressed are structure, content, personnel and direction. We feel that the focus of our program should remain primarily local and should emphasize specific conservation compromises that must be made between the Park management and the local populations.

H. Park Management and Protection.

In the original project document we stated "human pressures at present are not great in the proposed park area--thus only a minimum of management is anticipated. However, as development envelopes the park over time, it is essential that the basic infrastructure and management staff exist as a foundation. In years one and two camps will be built for project staff, and transportation and communication systems will be established. In year three of the project a small staff of guards will be hired primarily from the local population, to institute effective park protection."

As per this description, the project is right on schedule. We have made significant progress in establishing camps and communications and logistical infrastructures. Any delays have been due to the very late start up date of the GEF project. It is with GEF funds that most of the construction was to be done along with the hiring of guards. Thus far the construction budget has been supported entirely by USAID and WCS.

Since the start of the project we have had the opportunity to analyze the overall scope of human population pressure within the NNNP. These observations are discussed in the papers by Fay mentioned above and will be subsequently addressed by P. Hecketsweiler in his reports. In general, we have found that the major pressure point which will continue to increase is on the Central African side of the border. Poaching has dramatically increased in the Dzanga-Sangha Reserve over the past three years. A significant portion of this poaching activity is now slipping across the border. Another area significantly impacted is the area around Makao. It is evident that the population of Makao has a very marked effect on the forest fauna up to 50 km away from their village, in some cases within the current park boundary. A potential problem area in the next several years will be to the south of the NNNP in the SNBS logging concession. In the near future this company will be building a bridge across the Ndoki River. This will not only destroy the intact and currently very pristine nature of this important part of the Ndoki ecosystem, but it will also attract a large number of hunters into this area.

In the coming year the project will have to concentrate on the protection strategy for the reserve. This will necessitate that a coherent program of conservation in the two base villages of the project, Bomassa and Makao, be devised to collaborate with the Dzanga-Sangha Project. An agreement with SNBS which will include a conservation strategy for the southern perimeter of the reserve should also be explored.

Unfortunately we have yet to identify any individuals in Bomassa whom we deem able to conduct effective conservation measures in the forest. The vast majority of people in Bomassa are illiterate, very mediocre trackers, show little leadership ability, and are generally irresponsible. We feel that recruitment of local people in Bomassa as ecoguards is questionable. In Makao however, while we have much less experience in this area, it seems that there several potential candidates. Also in Kabo, where much of the pressure will come from in the coming years, there are many suitable candidates. The Dzanga-Sangha Reserve already has a force of 30 guards which could be very effectively used by the Nouabale-Ndoki Park management to protect its most vulnerable border. The project will probably have two aircraft at its disposal starting in mid-1994 which will also enhance the protection effectiveness.

Recommendations:

We suggest that a protection program for the coming two years be formulated in 1994. This program should include a formal agreement of collaboration with the Dzanga-Sangha project, collaboration with logging companies, responsible hiring and formation of guards, participation by the Ministry of Eaux et Forêts and expatriate experts. This effort must also include procurement of equipment and arms, through the formulation of respective budgets and long-term planning.

I. Development of the Economic Sector

1. Nature Tourism

The original project document was very succinct on this point: "As the project progresses and more information becomes available, project personnel will evaluate touristic possibilities and facilitate its development where appropriate."

In mid-1993 two tourism organizations in Brazzaville expressed a desire to conduct tourism in the NNNP. The response from the project to Mme. Martina Ebatha, of UTC travel, spells out the project policy on tourism. It is felt that tourism, for the most part, should be based outside the NNNP. There are several reasons for this: 1) Tourism, if practiced in the park, will have a negative impact on the park ecosystem. 2) If tourism is practiced in the reserve, and is based in Bomassa, it will undoubtedly bring an unpredictable amount of excess cash into the local economy as well as an undesirable increase of inhabitants and the concomitant increase in demands for space and food. 3) Nature viewing practiced outside the NNNP will be of a similar quality to that within the park. 4) A private individual, Mr. Michel Courtois, has built a tourist camp on the Ndoki River, 40 km south of the NNNP, which is an appropriate site for tourism. 5) Tourism practiced outside the park, especially to the south, will help in the conservation goals of the project by bringing a presence which requires that conservation measures be put in place and by bringing conservation based revenue into the area. 6) Ecotourism inside the NNNP should be reserved for people who are willing to pay significant sums which will help in financing of future, post-bilateral funding activities.

Recommendation:

As soon as the NNNP decree is signed by the President, a coherent tourism policy should be put forth in the interior regulation document.

Mr. Courtois should be encouraged to collaborate with Mme. Ebatha and other tourism organizations in developing a tourism program for the area. This should be the object of an agreement between the project, the Ministry of Tourism, Mr. Courtois and tourist organizations.

2. Safari Hunting

One hunting operator is now present in Congo, Mr. Eric Stockenstrom who hunts near the Odzala National Park. He has met with mixed success. He cites the major impediment to success in Congo as the high cost of operation and the inability to attract clients because he can not offer bongo, leopard and elephants as they are all integrally protected species in Congo. In adjacent CAR leopard and bongo are open for hunting and in Cameroon all three species can be hunted. He stresses that if Congo does not open bongo, that there is little chance that this enterprise could ever compete with surrounding countries which also offer similar safaris. Mr. Stockenstrom wanted to do prospection in the area just to the south of the reserve in 1994, but was discouraged from doing so by the project as he wanted to bring in a large number of clients in the first year. Correspondence with Mr. Stockenstrom has stated clear expectations and stipulations as to how the project would like to see safari hunting in the region evolve, if indeed it is deemed desirable.

Over the past year M. Fay and R. Ruggiero have been in contact with a limited number of hunting operators simply to discuss what kind of program we envisage for the buffer zone of the park. A plan should be made for member(s) of project staff to attend the 1995 annual meeting of Safari Club International. It is hoped that at this meeting CFC staff will be able to meet most of the serious operators from around the world and thereby be able to gauge the level of interest in the scheme which may eventually be possible in the area to the south of NNNP. Subsequently we plan on inviting a certain number of promising operators to Congo to visit the project area.

A budget of \$40,000 is contained in the GEF funding for the project to assess the feasibility of doing safari in the NNNP area. This would include a study (conducted by an independent operator with experience in the area), of animal population, economic feasibility, alterations to be made to currently existing legislation as well as an impact evaluation. The resulting document will be a draft of a concrete program of collaboration with the Nouabale-Ndoki Project. This consultancy should take place toward the end of 1994. Additional funds may be available from the private sector for a more comprehensive feasibility study.

A number of private individuals from the United States have expressed interest in making a visit to the area south of NNNP in 1994 to investigate the prospects for doing a combined conservation\safari activity in the area.

Considerable discussion has been ongoing with the Director of the Flora and Fauna (DFF) on this matter, but no formal decisions have been made. The DFF is currently in the process of revising the game laws of Congo.

Recommendations:

Attend international safari conferences to "network" with the hunting community.

Carry out consultancy in late 1994 and present a feasibility study and action plan.

Invite a small number of operators/funders to visit the project site.

Hold discussions with the government on safari hunting in general and specifically for the NNNP project area.

Aid the government in revising game laws.

3. Other Activities.

The original project proposal is purposely vague on this subject . The recent report by Fay on the Dzanga-Sangha Reserve discusses many of these options at length underlining their advantages and disadvantages.

ecommendation:

Wait for the Hecketsweiller report and produce a sensible action plan in the GTZ buffer zone project.

J. On-site Training

1. Administration and Management.

Three individuals from the Ministry of Eaux et Forêts have been seconded to the project since its very early stages. Two of these individuals, Mr. Marcellin Agnagna and Mr. Jerome Mokoko, have a appreciable level of training and experience in the field of conservation. These two individuals have been working closely with expatriate project staff throughout the development phase of the project and have been given increasing amounts of responsibility. For example, Mr. Agnagna has just completed a trial period of three months in Makao termed : "Operation Makao". He was given a budget and the necessary equipment and had a team of ca. 15 employees under his direction. This three-month period has just ended and will be evaluated by the project staff in February 1994. Mr. Mokoko has become the de facto assistant coordinator in Brazzaville and has performed well. He has completed a computer training course and English classes and continues to improve his administrative skills. The third party working for the project is a "political appointee" and does not contribute to the overall functioning of the project, and there is little hope that he ever will.

Recommendations:

The third party who now works for the project should be replaced by a person who has good potential to work in the field. This person should be the future "chef de brigade" of the antipoaching team and will be seconded by the GOC to the the project in 1994 and 1995. This person should be based in Makao where most of the antipoaching activity will be centered.

As the project activities continue and the responsibilities and seniority with the project accrue, GOC personnel seconded to the project will increase demands on the project to remunerate them either materially or financially. While the government is responsible for the currently unpaid

salaries of these individuals they will look to the project for their well being. This issue will have to be addressed in the near future.

2. Technical.

During negotiations of the project agreement the post of scientific coordinator was not included in the design proposed by the Ministry.

Recommendations:

While this post will become increasingly important, we have yet to identify a Congolese who could competently occupy a position of this kind. This individual must possess a high level of knowledge of research design and execution, especially since this individual should be responsible for graduate students from many locations. The project director realistically does not have the amount of time that it will take to coordinate science in the reserve. In the following six months construction at the Bomassa site, including the Ndoki camp and satellite camps, will be completed. This will free up the project manager, Dr. Richard Ruggiero for other tasks. It is suggested that a Congolese camp manager, or intern, be hired to take care of many of the day to day chores of running the Bomassa base camp. When construction is complete Dr. Ruggiero should be officially designated as the scientific coordinator for the project amongst his revised tasks as project manager. This would include coordination of all research programs associated with the project.

Congolese students and researchers:

Because of the lack of GEF funds, lack of infrastructure, civil unrest and a lack of appropriate candidates, few Congolese scientists or students have participated in project sponsored research.

To date we have had one student from the institute of rural development and one from the regional agricultural lycee. Contacts have now been made with a number of professors at the University and researchers at ORSTOM who may be able to identify individuals for us but recent social unrest has resulted in the closure of these two institutions.

Recommendations:

When the scientific coordination for the project is operational, GEF funds are available, and the scientific committee to review research proposals is in place, it should be possible to recruit students for punctual research projects within the reserve area. Each student research program should be preceded by a research proposal which will pass through the research committee and the research coordinator. Exact terms of reference must be established before work begins.

Technicians:

Our policy of hiring only local people in Bomassa significantly reduces the chances of training a body of technicians to work for the project. We have identified one individual who is a good

assistant in the field, who currently works for the project, but even this man is illiterate and was not born in Bomassa.

Recommendations:

Since human demographics and growth in Bomassa are a higher priority than the formation of a large body of technicians at this point, we suggest that this program should not be carried out at the present time except in cases of absolute necessity. Over the years, the older children, who are now in school, should make excellent choices for these posts. When work begins in earnest in Makao, there is a much greater chance of finding competent research technicians there who may be recruited for various research projects. In addition, research programs not based in Bomassa could benefit from the enlistment of technicians from the areas of involvement such as in Kabo, Ouessou, Pokola and the capital city. For example; Basile, who currently does crocodile work in the river boats.

3. Park Guards.

The GEF funds should be available in early 1994. If so, an initial team of five guards will be hired from a pool of ten trainees from the local population in Makao. These individuals will be trained in field conservation in the Dzanga-Sangha Reserve, if this can be arranged. A similar arrangement was undertaken between ECOFAC and Dzanga-Sangha and this was highly successful. Subsequent training in military techniques by the Congolese army, probably in the garrison in Impfondo, as well as conservation training by the project will be given to remaining five candidates. There is now a force of 30 guards in Bayanga who have several years of experience, and a high level of expertise working in situations similar to those in Nouabale-Ndoki. An added advantage of this strategy will be that these guards will be able to establish a working relationship with the Dzanga-Sangha project which will be essential to the future success of the conservation component of the project.

As mentioned above, it will be necessary to have a Ministry employee lead the antipoaching team. We have identified a potential candidate for this post, who is currently working for two months with the project as a trial period.

4. Bayaka Guides.

After working with the entire Bayaka population in Bomassa for the past two years, again we have come to the realization that the bush skill levels of almost all of these individuals is extremely low. Only the oldest of the Bayaka in Bomassa have even a moderate level of skill, but these individuals are low on energy and motivation. Nonetheless, we have been working with a small number of individuals who show potential and we will continue to work with them to improve their skills and commitment. We have already seen a significant improvement in both domains.

On the other hand, the Bayaka population in Makao, which numbers well over 300, shows a

very high level of bush skills. We will certainly recruit a cadre of these individuals in this locale when the antipoaching activity starts in earnest. Because of the deep-rooted ethnic bias that still exists between Bantu and Pygmy, especially in Makao, we do not recommend hiring Bayaka as guards, but only as guides.

Recommendations:

For Bomassa there will be a need for experienced and motivated Bayaka guides in the future. One way to ameliorate the situation would be to bring in Bayaka "consultants" from the Dzanga-Sangha area, who will be able to pass on a great number of skills to the Bomassa Bayaka, especially the younger ones. In the past we have seen in the Dzanga-Sangha Reserve that Bayaka, when motivated, are fast learners. One problem that may exist with this plan is that the Pygmy group that is in Bomassa is Bangombe, while those from the Dzanga-Sangha Reserve are Bambendjele. It is suggested that a pilot trial be made to evaluate potential success.

K. Forestry Buffer-zone Management.

As reviewed above, Dr. Philippe Hecketsweiler has been working with the project for the past year assessing buffer zone management needs. A full report of recommendations will be available by June 1994.

Recommendations:

Planning for buffer zone management, which will be produced only with project approval, should be based on the recommendations of the Hecketsweiler report. Before this time it is not necessary to discuss in detail what is envisioned for this component of the project. It is our feeling that buffer zone management should concentrate on increased organization in the logging sector through the collation of the existing forestry data and monitoring of those data as they accrue, controlled village hunting zones surrounding the park and research. CFC does not feel that rural development programs such as animal husbandry, health care and small business loans will be positive for the park and they will probably not be part of the initial phase of the buffer zone management scheme.

Extended Activities

A. Further Surveys

Since the beginning of the project, three surveys have been carried out by the project in important target conservation areas in Congo: Garabinsam in the northwest of the Sangha Region, the Lefini Reserve in the Plateau Region, and the Likouala aux Herbes swamp in the Likouala Region. Final reports for the first two were submitted to the World Bank in 1992. The third was the subject of a master's thesis by Steve Blake, funded by the project, entitled "A reconnaissance survey in the Likouala swamps of northern Congo and its implications for conservation". All three reports are available at the project offices in Brazzaville.

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Two of these surveys were carried out by multi-disciplinary teams funded by the World Bank and coordinated by the project. The third survey was financed by the Nouabale-Ndoki Project with private funds.

Recommendations:

In the near future the GEF project will start to operate in several areas around Congo and surveys will be ongoing in a number of them. To the extent possible, the project will participate in these surveys and may even be hired as a consulting agency, through the WCS central offices, for surveys in potential conservation areas which have yet to be surveyed. When the project aircraft are operational it is intended that these will be used in collaboration with other conservation projects, not only in Congo, but in the region for surveys in potential conservation areas.

B. Forest Resource Management Recommendations.

Because the World Bank Natural Resource Management Project and the Tropical Forestry Action Plan have failed to be implemented, the project has not performed in an official capacity in this domain. We have participated in a number of discussions concerning these issues with the government, but because of the state of the Congolese economy no new logging endeavors have been initiated in northern Congo since the start of the project.

The French Government is talking of initiating two projects in Congo called Aménagement Pilote Intégré (API). One of these projects may be based in the SNBS logging concession on the southern border of NNNP. While the French have faced considerable criticism for API projects elsewhere (in particular in Cameroon) we have been assured by the planners of the initial stages of these projects in Congo, that they will not be a green-washing of typical logging operations, but rather, true ICDPs. Because the details of this project are currently undefined, it is impossible to say, at this point, what our evaluation of the project will be. We have been assured by the French that any move in the direction of SNBS would be preceded by an collaborative agreement between Nouabale-Ndoki and the x project.

Recommendations:

Assure that if the GTZ component if the project is funded that it will include all important components in hunting zone management and research. The forestry management component based at the Ministry of Eaux et Forêts in Brazzaville should be fashioned after the one currently undertaken by the World Bank in CAR, and should computerize the monitoring of logging operations in Congo. This would be a satellite component of the Nouabale-Ndoki Project.

Assure that the French API project, now in its development phase, is not a green wash, but a genuine attempt to integrate logging interests and conservation. Assure that the Nouabale-Ndoki Project is included as an active participant in the development of this project, if it is deemed positive for conservation. If it is not, it may be necessary to oppose this plan.

Take a more formal role as an environmental consultant to the government, especially in forestry matters.

Obligate international funders of logging operations, or other development agencies, to carry out environmental impact statements of projects, before they are implemented. Assure that there is a budget in any scheme which will assure that environmental concerns are an integral part of any logging operation.

C. Training.

Thus far a limited number of people have participated in project activities which have provide practical field experience for a number of Congolese scientists and managers. This aspect of the project has also suffered from political unrest, funding constraints and lack of qualified personnel.

In the near future the GEF project will commence. There is a considerable budget both at the Nouabale-Ndoki Project level and also in the GEF central budget for this type of activity. This project will put in place an infrastructure that will permit organized training opportunities for Congolese.

WCS will be initiating a PARCS project in Congo in the near future. This project is specifically concerned with training on a broad range of fronts for protected area managers.

Recommendations:

Collaborate closely with both the GEF and PARCS projects if and when they become operational. We can provide consultation and a limited number of opportunities for on-site training at the Nouabale-Ndoki Project site.

D. Environmental Education

As mentioned above, on a national level, the project has been active in conservation education mainly through radio and television programs as well as the project newsletter, which has a considerable readership.

Before Peace Corps was evacuated due of political unrest, the new director had anticipated recruiting conservation educators for a number of posts throughout the country. The Nouabale-Ndoki Project was to participate as a consultant to this program. Unfortunately it is highly unlikely, even as Peace Corps resumes operations in Congo, that this program will be initiated. Both the GEF and ECOFAC projects will be, or are, active in national environmental education.

Recommendations:

Coordination with GEF, ECOFAC and PARCS should be established to see if a unified program

can be initiated. It is suggested that a conservation newspaper, like that published in Gabon under the name "Le Cri du Pangolin", which is currently financed in large part by ECOFAC, be initiated in Congo. Each of the conservation projects could participate financially and technically in this endeavor. This publication would be in addition to the Nouabale-Ndoki Bulletin.

An effort should be made to increase the number of programs which are televised on conservation issues in the Congo. It would be worthwhile to entertain the idea of a bi-monthly program to be televised on various conservation issues in Congo. Again, collaboration between the various conservation programs, ministries and the national television would be advisable.

PROJECT ADMINISTRATION

A. Financial Contribution.

Funding of the project has gone more or less according to plan except that the GEF component of the project is a full two years behind schedule, and the GTZ component has started with an 18 month project identification phase which has contributed no concrete actions in the implementation of the project. Only the U.S.-based funding, i.e. USAID (in the form of a 2.5 million dollar grant to WCS), WCS (through private funding), US Peace Corps (in the form of volunteers), and GOC participation have been punctual.

While the project has succeeded quite well in its objectives in the absence of the GEF and GTZ components as real contributors, we have found ourselves spending considerably more on construction from the USAID budget than anticipated and considerably less on other aspects of the project. It is not felt that this has been a major impediment, because without a project infrastructure that is functional, it is almost impossible to effectively implement other aspects of the project. The departure of Peace Corps has also presented another financial problem to the project, that of recruiting, and paying for key volunteer posts.

Recommendations:

Increase USAID grant to 3.2 million over five years to assure proper functioning of project.

Encourage both GEF and GTZ to initiate funding as soon as possible.

Replace the Peace Corps volunteers by a number of qualified, private volunteers, interns and students. Funding for this activity should be provided by one of the major funders of the project.

Encourage USAID to fund a second phase of the Nouabale-Ndoki project which would assure the necessary staff and infrastructure within the project to manage the project as a whole. At present GEF funding is scheduled for a four year LOP. If GTZ funds an actual project, it will

continue for a considerably longer period. Therefore, it is crucial that the various project phases be operated simultaneously. To ensure long-term management of the NNNP, it is suggested that a trust fund be established which would finance the necessary management structure.

B. Management

The project organogram and organization have followed very closely the projections of the original project document. The project has a director whose primary role has been as a technical expert, advisor, and a trouble shooter tending to project needs. A coordination office was established in Brazzaville which has assumed the responsibility of overall project coordination and liaison with multiple collaborators. The management infrastructure has been put in place in the field site near Bomassa which manages day to day project activities including: establishment and management of infrastructure, training and coordination of local staff, liaison with local persons, agencies, etc.

Recommendations:

There has been considerable discussion about the management structure of the project in the preceding months. There are two major points of discussion.

With the proposed introduction of the PARCS program into Congo, WCS is seeking a way to integrate the activities of the Nouabale-Ndoki Project and the PARCS program. The suggestion of the WCS has been to take the project coordination position and divide it into two half-time positions--half Nouabale-Ndoki, half PARCS. To fill the need for project coordination by the absence of a full-time employee in that position, it has been suggested that the project hire an additional expatriate administrative assistant.

The project's position on this has been that our present infrastructure and personnel in Brazzaville have performed well to present in fulfilling project needs. The project has invested considerably in the infrastructure and operational system. It is felt that a drastic change would disrupt a system that has worked very effectively for the project up to the present time. The project facilities in Brazzaville are not equipped to handle additional activities.

A half-time position requires that an individual be present most days on a half time basis. The current structure of PARCS has the half-time person there doing a considerable amount of regional coordination of this project which would require that this individual be abroad frequently. We feel that the Nouabale-Ndoki coordination, with this type of arrangement would suffer from a lack of direction. This could be extremely disruptive to the smooth operation of the project. The problem with half-time positions is they become full-time ones. For one person to do two jobs simultaneously would be extremely difficult, and conflicts of interest are likely to arise.

The solution that has been opted for is to divide the the present Project Coordinator's equally between the PARCS and CFC coordination as of January 1994. At least until the planned

USAID evaluation mission arrives the logistical and administrative functions of the CFC coordinator will be taken over by a full-time expatriate Administrative Assistant. Under current plans, the role of PARCS Coordinator will become a full-time position by September 1994.

It is felt that the current project base in Brazzaville has functioned very well in fulfilling its original purpose. While it may be advantageous for PARCS to be closely-associated with Nouabale-Ndoki, and it would save WCS administrative costs and management requirements, it is felt that this arrangement would be disadvantageous to the Nouabale-Ndoki Project. This is particularly pertinent to the beginning of the arrangement. Matthew Hatchwell will be required not only to train a new employee to take over many of his current responsibilities, but will be starting up operations of a entirely new project with all that that entails. This comes at a time when the GEF project will start its implementation phase which will require a great deal of start-up time by the now experienced Project Coordinator.

In view of all of the above considerations and the fact that the civil conditions in Brazzaville are currently extremely explosive, it is felt that the currently planned scenario will considerably reduce the Nouabale-Ndoki Project's coordination capacity. This is considered extremely risky in that at present the project has a very good reputation with international funding agencies and with the government for its trouble free operations. The fact that the planned changes may seriously deteriorate these relationships should not be ignored.

It is felt that the Nouabale-Ndoki Project and PARCS would remain separate entities which collaborate closely. This would fulfill the need of the project to accomplish more in the domain of training, and it would give the PARCS program an opportunity to collaborate with a field operational project.

The initiation of the GEF project could increase the administrative workload in Brazzaville to the point where it is deemed necessary to expand the management capacity of the Brazzaville office. The additional load of the GEF project is as yet unknown. If it is deemed necessary we may have to create an additional administrative assistant post in Brazzaville. It is thought however that if there is a need for additional management staff, that it will probably be greater in the actual project site in the north. Some budgetary consideration should be made for this eventuality during the evaluation mission. In any case this proposed marriage of PARCS and Nouabale-Ndoki should be discussed in detail during the evaluation.

Field Management.

Because of the absence of five key individuals (i.e. Peace Corps volunteers) who were projected to help execute the field program in association with the project manager, there has been a personnel deficiency in the field program for quite some time. At the same time another key post for the project has never been filled, that of scientific coordinator. The project director and the field manager have made an attempt to keep all of the various proposed project components active, despite this lack of management personnel. While this tactic has been largely successful, albeit in on a reduced scale, we are in the process of reevaluating the organization of the field

staff and their terms of reference which will be discussed below.

The expanding management requirements in the project site due to start up in Makao and also the GEF monies coming on board may require that additional Congolese and expatriate management staff are sought for these needs. This question should also be addressed during evaluation.

C. Personnel

1. Project Director. The terms of reference of this individual should not significantly change. However, a certain restatement and clarification of his role may be helpful.
2. Project Coordinator. The terms of reference of this individual should not significantly change. Again a certain reiteration and clarification of his role is necessary.
3. Assistant Coordinator. As the project proceeds, more and more project business can be handed off to this individual. These tasks and responsibilities should be agreed upon and clearly articulated.
4. Project Manager. The project manager position should be rewritten to reflect the true responsibilities of this individual. The most salient changes will be to hand over the scientific coordination responsibilities (a position inadequately filled by the project director currently) to this individual, transfer day to day operations and camp management to a Congolese or private volunteer to free up this individual for more important tasks. It will also be his responsibility to institute a cadre of Congolese, private volunteers, interns and students who could see to other project components, as per the original Peace Corps positions (with modification), all of whom would be under the project manager's direction.
5. Co-manager. The original co-manager, Jerome Mokoko, found living in Bomassa very difficult. It was also not very productive having two people with the same job title and position in one place. This position could be effectively filled by a Congolese Eaux et Forêts person who could man the Makao base. When the infrastructure is built and the airplanes are operational, a sufficient amount of management will be possible via twice daily radio contact and frequent visits to the Makao site. It is our feeling that a private volunteer should be recruited to oversee the construction activities in Makao. This person would be trained and directed by Dr. Ruggiero who has significant experience in such efforts. Once the infrastructure is complete, the management of the Makao site will include supervision of the guard force, most of whom will be located in Makao, and general management of activities in the Likouala Region.
6. Scientific Coordinator. This post was never created but rather fell under the aegis of the Directeur Adjoint position. Currently the Directeur Adjoint is overseeing activities in the Makao region. This has proven to be a good position for this individual. Eventually he should be assisted by an someone whose sole responsibility would be to directly coordinate anti-poaching activity. The responsibilities of the scientific coordinator should be transferred in an official way

to the Project Manager.

7. Peace Corps Volunteers. A letter to Mr. Bob Hellyer clearly stated our position vis-a-vis Peace Corps. We feel that the job skills required, and the level of commitment that is essential to work under frequently arduous conditions in the project area, require careful recruitment. With Peace Corps' recruitment practices, the project will not have the opportunity to be involved in the process of selecting candidates and setting a priori expectations. This will always be a major impediment to success. In addition, given the political uncertainty, and civil strife in Congo, it is probably unwise to rely on Peace Corps volunteers who will always be more subject to evacuation than are private volunteers. We therefore suggest a combination of interns, private volunteers and students to fill some of the original Peace Corps posts.

8. Consultants. Thus far in the project a number of consultants, mostly Congolese, have worked on various tasks for the project. As GEF moneys become available there will be more opportunity and funding for very specific and well-defined consultancies with the project.

9. Guards. As mentioned above, the majority of guards will be hired in Makao. During the first year of GEF five guards will be recruited from an initial group of ten candidates. These individuals will follow a training course in Bayanga CAR at the Dzanga-Sangha Reserve for two months and a military training, subsequent to the elimination of five candidates, probably at the military garrison in Impfondo. These individuals, after their training, should be deputized by the government to carry out law enforcement. Before the training commences specific terms of reference will be drawn up and a contract will be signed with the Dzanga-Sangha Project. In year two of GEF five more guards will be recruited.

10. Technical Assistants. Initially it was hoped that five Congolese assistants would be hired from the local population in Bomassa to assist in a wide range of research, survey and environmental education activities. Unfortunately, the level of education found amongst the Bomassans does not permit this to happen. It is thought that bringing five assistants from the outside to work in Bomassa would be extremely disruptive to the project program and for village demographics, and we would not recommend it. Current students in the Bomassa school could be recruited for these positions in the future, but this is obviously for the long term.

When GEF starts there will be opportunities for hiring assistants outside of the park area such as Kabo for forestry and wildlife studies. It is more desirable to hire people locally, outside of Bomassa, than to bring them in. An example of this type of arrangement is Mr. Basile x who is doing a study of commercialization of dwarf crocodiles on the Oubangui River. This individual has provided a great deal of useful data thus far and will continue to do so in the future. It is our intent to hire individuals of this caliber as they are identified for other long-term research projects.

11. Guides. Since the beginning of the project we have hired every available individual in Bomassa who may qualify as a guide. We have identified a number of individuals who will be

appropriate. We currently use them as temporary employees for research activities. We are seeing slow progress in their skill levels.

12. Construction Staff. In the initial stages of the project we hired a local contractor, Mr. Joseph Matondo, to build the Bomassa camp. While this individual showed a certain level of expertise, constant management and technical input of the work was necessary by the project manager to see that construction proceeded efficiently. In the meantime two Peace Corps volunteers were assigned to the project who left after less than a year due to evacuation. Currently the project manager still finds himself assuming the responsibilities of construction foreman. As far as the labor force is concerned a small contract staff of three individuals has been with the project for the past year, two carpenters and a mason. The rest of the construction crew has been taken from the local populace. The project has trained a number of these individuals in woodworking, carpentry, masonry, mechanics, and a number of other tasks. These individuals are now showing a considerable degree of expertise. When construction is complete on the Ndoki camp, probably in the first half of 1994, the trained local people should be competent to undertake general maintenance, with occasional contractors taken from the very large pool of skilled labor in both Ouesso and Impfondo. As construction winds down in year three in Bomassa the contract expertise may be transferred to Makao. It is believed, however, that a private volunteer will be needed to accomplish the modest construction planned for Makao.

13. Support Staff. Thus far the project has done very well in staffing the support positions. We have a very competent administration officer, foreman, pirogue operator, and teacher. Only two of these individuals are not local; the administration officer and the foreman. The same strategy has been applied and is also working effectively in Makao.

D. Participation of Government of the Republic of Congo.

1. MEF. Thus far relations with the Ministry of Eaux et Forêts have been exceptional. The project has worked hand-in-hand with the Ministry at all levels of the project execution. In all cases the Ministry has been extremely helpful and collaborative. Proof of this is the astonishing rapidity with which the park was created. As mentioned, the only step which remains is actual signature by the President of the Republic. Frequent meetings are held between the Minister, his Directeur de Cabinet, the Directeur General and the Directeur of Flora and Fauna.

While there was a settling in period during which each individual in the upper management of the project had to find his niche, currently we find that our Congolese counterparts from the Ministry of Eaux et Forêts are making a very real and constructive contribution to the project and they are increasing their level of expertise on a daily basis. We should strive, however, to rectify the problem of having one political appointee working with the project who is not contributing. We also feel very strongly that each individual in the project have their own tasks. We feel that the counterpart system is redundant, counter-productive, leads to leadership conflicts and patronization.

There have been a huge number of shuffles in the government since the beginning of the project. If stability can be attained this should only serve to improve the already good relations that the project enjoys with the government.

2. Because the GEF and GTZ budgets have been delayed, we have had only limited involvement with the Ministry of Research and the University. However, we have maintained good working relations with them, and we are confident that once the GEF budget is available that collaborative efforts will become a reality. See annex for proposed collaboration with CERVE.

3. Before the project began, a collaborative agreement was signed with the GOC which established WCI as an official international organization in the Congo. To date, the government has honored the agreement in every respect. We believe that this good relationship will continue. In addition the project signed an agreement with the Ministry of Eaux et Forets establishing WCI as the manager of the project. This agreement has also been honored in every aspect. In early 1994 we expect to sign a third contract with the government which spells out WCS' responsibilities regarding the GEF project and which re-affirms the project's leadership in the management of the reserve. While the negotiation process has been long, we feel that the contract in its present form will assure a smooth relationship with this institution.

4. While we have yet to hire guards and acquire arms for these individuals we have every reason to believe that the government will facilitate this.

E. Infrastructure Development.

Construction

1. Sangha River Base.

After agreement with the village on an appropriate site was selected--an abandoned field between Bomassa and Bon Coin, construction began in February 1992. Since that time the Sangha River base has been largely completed as per the original proposal.

The far the following buildings have been constructed:

- 1 Lodging 10x16 m
- 2 Lodgings 6x9 m
- 1 Office\case de passage 6x9 m
- 1 Kitchen\reserve 6x9 m
- 1 Cook house 5 m diam.
- 1 Warehouse, admin office 6x9 m
- 1 Work shed 5x6 m
- 1 Fuel depot 4x5 m
- 1 Shower\bathroom block w\ septic system 3x8 m

- 1 Shower\bathroom block w\ septic system 3x4 m
- 1 Generator building 4x4 m
- 2 Common areas 6x8 m
- 1 Water tower

The entire camp is electrified with 220 v powered with 15 kw generator and a backup of 2 kw. The office is also supplied by a 12 v solar system for operation of computers, and radio.

Extensive landscaping has been done to direct drainage and to prevent erosion.

In addition a house was built in Bomassa for the administration officer as well as a school shed. Three additional houses were purchased by the project for temporary skilled labor which are currently occupied by project foreman, carpenters and mason.

We believe that the current infrastructure is sufficient to provide adequate housing for project employees and visitors.

2. Ndoki Field Camp.

Clearing of the Ndoki field camp site began in late 1992, after the road was completed. The site is at the end of an abandoned logging road of 32 km, reopened in 1992 by hand. The site was cleared for gravel extraction for the logging road which provided an excellent site requiring the removal of ca. 10 trees. A great deal of brush clearing, tree removal and land moving was necessary to prepare the site for construction. In mid 1993 a temporary warehouse and storage shed were constructed and construction materials were transported to the site, including a large quantity of lumber which was transported by dugout canoe from Kabo. In late Sept. 1993 construction began on the first of several buildings that will be built in the camp. All construction at the Ndoki will be of wood on cement pylons.

The following buildings are envisaged for the Ndoki camp:

- 2 Lodgings 10x10 m with four rooms (to replace 5 individual lodgings in initial proposal)
- 1 Lodging 6x8m for permanent personnel
- 1 store room 6x6m
- 4 tent platforms
- 1 common area 6x9m
- 1 port
- accessory buildings such as outhouses and shower huts.

The Bomassa camp will be completed in Dec. 1993 when Ndoki construction will start in earnest.

3. Field camps.

One field camp has been started in the Mbeli clearing area. This camp will be used for long-term monitoring of the Mbeli clearing. This is the only camp currently in the planning stages.

4. Guard camps.

We have reconsidered here and will not be building guard camps since all of the guards will be recruited from the local population. The Makao base camp, which will house the "chef de brigade", will replace the guard camp in the original proposal.

Complete plans of the Makao site construction will be prepared shortly after consultation with Marcellin Agnagna who will be able to provide a more accurate view of needs assessment.

5. Observation towers

Three temporary observation towers have been constructed thus far, one at the Wali bai and two at the Mbeli bai. These will suffice for the initial stages of the project.

The first priority for permanent observation towers will be a solar powered one at the Mbeli clearing which will be large enough for several researchers and visitors and to provide shelter for four people. We plan install solar power on this tower for operation of video cameras.

Roads, River Transport and Trails

Roads.

In 1992 and 1993 the abandoned logging road going from Bomassa to the Ndoki Camp site was reopened. The total length of road opened was 32 km. The road was opened by hand and chainsaw to a width of 5 m. The road has been open now for ca. 1 year and the project truck has ca. 20,000 km all of which were put on via this road, i.e. 625 one-way trips. The road has held up very well considering not only heavy use by the truck but also the unexpected use by wildlife. There are many groups of giant forest hogs, bongo, and buffalo all of which dig frequently on the road, and not so uncommon use by elephants. At present, a full-time 5-6 man crew and a transport vehicle are necessary to keep the road open.

In the incipient stages of the project there was a great deal of criticism centered on the opening of this road. It was thought that its opening could start a major push of poaching activity on the road and in the Ndoki Region. We always countered this argument on two grounds: 1) If poachers are going to gain access to the Ndoki they will do it regardless of the state of the road. Through 1991 people from as far away as Kabo used to hunt elephants on the east side of the Ndoki, including in the Mbeli clearing. 2) The road use will be restricted to Bomassa to Ndoki. There is no other access route. We have had extensive meetings with the people of Bomassa explaining why the road can not be used for hunting, or access to the Ndoki River. Thus far we have only experienced only two incidents as a result of the road, both of which were resolved by the project manager. Considering the conservation pluses and minuses, the road has proven

to be an essential tool in the protection of the Ndoki ecosystem and should remain open unless it is shown to be having a negative effect on conservation goals.

Recommendation:

The heavy use of the road by the project vehicle, as well as animals, the road surface is currently experiencing some degradation. Also, vegetation on and near the road grows very quickly and is in need of constant management. We have carefully analyzed the alternatives to deal with these needs and believe that the purchase of a small utility tractor would be appropriate. This will permit us to put the effort and manpower that is currently used for the road to other tasks. There is sufficient funding in the GEF budget for the purchase of this tractor. This would bring the permanent crew down from 5-6 to 1, representing not only a financial saving to the project but also the lowering of impact through the reduction of necessary staff.

Rivers.

A crossing has been cut across the Ndoki River from the Ndoki Camp to the Mbeli Port, a distance of ca. 3 km. A fleet of 3 dug out canoes is now in place at the Ndoki port which permits rapid access to one of the main study areas in the reserve. It now takes 2.5 hours to go from Bomassa to the Mbeli clearing, a trip which used to take ca. 2 days of hard walking and wading through swamps.

The Motaba River is already open to high ground on the Mokala River. The inhabitants of Makao use it for hunting and poaching of elephants. Therefore, there is no need to open this river further, but rather to keep it open and at the same time eliminate poaching along it.

Trails.

Thus far three trails have been opened. A short trail to the Mbeli clearing, a trail to the southeast of the reserve and one to Makao from Bomassa. Other trails are also in existence, Kabo to Makao (cut by Michel Courtois in 1989), Makao to the upper Mokala (cut by the people of Makao), Bomassa-Japanese research camp (cut by Kyoto team). In the near future a trail will be cut from Bomassa up along the CAR-Congo border which will serve as a temporary limit marker. Additional trails will not be put in place until the guard brigade is operational.

F. Equipment.

In the first and second years of the project a large amount of equipment was purchased with USAID and WCS private funds.

These included:

1 Isuzu station wagon

35

1 Toyota Land-Cruiser
1 Toyota Corolla
1 Toyota Hilux (by GTZ for Ouesso)
6 Stihl Chain saws
6 outboard motors
5 dugout canoes
2 water pumps
4 electric generators
4 radio systems
7 computers
6 printers
1 photocopier
3 air-conditioners
3 telephones
1 fax machine
2 bicycles
2 refrigerators (one electric, one kerosene)
1 cassette recorder
full compliment of shop tools
full compliment of power tools
arc-welder
a variety of camping, scientific, construction and other equipment.

The vast majority of this equipment has functioned well and has been used to the maximum and has permitted rapid and efficient start up and operation of project. The majority of equipment is still operating well and replacement time is very close to originally proposed for most equipment. The upcoming GEF budget will bring a considerable amount of new equipment to the project.

Recommendations:

Vehicles:

Outboard motors:

Chainsaws:

Electric generators:

Pumps:

Other: we need a lawn mower, tractor, small transport truck

Review of the procurement plan shows that we are ahead of schedule in all areas. All procurement of material has gone smoothly both locally and in the US. We have made every attempt to buy the maximum amount of equipment in the United States, not only because it is required under the terms of our agreement, but because it is of superior quality and it is usually easier to get parts for, even in emergency.

G. Timetable.

Most activities are on or ahead of schedule except those mentioned above.

H. Cooperative Links

1. World Bank.

While the process has been a long one in early 1994 funds will finally be available for the GEF project. The Nouabale-Ndoki Project was instrumental in the writing and assurance that this project finally became a reality. In fact we did a great deal of pro bono consulting throughout the development of the project. This project is administered by the World Bank and the principal implementor is the GOC with administrative oversight by Poulain Theriault. The Nouabale-Ndoki Project will be awarded 1.534 million US\$ for additional infrastructure costs, research, labor, students and a variety of other activities. It is felt that the terms of the contract are very favorable and we anticipate smooth collaboration with the GEF project.

At this time it is uncertain what additional personnel will be necessary to implement the GEF project. Certainly the interjection of large amounts of funding to the project will increase the work load of every individual now employed if a move is not made to increase the management capacity of the project. We are optimistic that through a combination of volunteers, long-term consultants and increased Congolese participation that the project should be able to effectively implement project activities.

2. US Peace Corps.

In the first year of the project the U.S. Peace Corps assigned five volunteers to the project, 1 Environmental education, 1 forester, 1 wildlife biologist, 2 construction volunteers.

Unfortunately two volunteers quit the project early and three others were evacuated with the rest of Peace Corps during the political unrest of 1993. For various reasons discussed above and outlined in annex x the project will embark on an internal effort to fill these posts with Congolese, private volunteers, interns, and students.

3. Regional Coordination.

As discussed above the project has done a good job of regional coordination both with respect to research and project management.

Dzanga-Sangha Management. Because of great concern about the direction that the Dzanga-Sangha Project has taken in the past two years from a project based on practical conservation to one of an ICDP, M. Fay has been critical of the project. In April 1993 Fay was hired by GTZ to look at the ecological and conservation implications of potential development projects planned for the Dzanga-Sangha Project. There has been no reaction to this report and it is

probable that the Dzanga-Sangha Project will not be modified because of it. It is the opinion of Fay that if the Dzanga-Sangha Project does not change direction in the near future that it will not only fail in its objectives, but will pose a threat to the success of the Nouabale-Ndoki Project.

It is hoped that over the next six months that a collaborative agreement can be reached between the two projects which will define the terms of cooperation. This should be regarded as a high priority for the next six months of project operation.

Recommendation:

For over a year the Nouabale-Ndoki Project has been attempting to arrange a meeting between the concerned ministries in the countries of the tri-national area in order to discuss the terms of agreement. At one time GTZ proposed to finance the conference, but at the last moment retracted it's offer. It is suggested that a proposal be written, and funds sought, to arrange this conference in the next six months.

Dzanga-Sangha Research

Ms. Andrea Turkalo has been studying the Dzanga elephants for the past three years. Data are now available on population, genetics, social organization, reproduction and feeding behavior. The Nouabale-Ndoki project has overseen this project since its inception. Funding is now pending with USFWS. If this funding is not obtained it will be necessary to seek funds elsewhere.

Cameroon research

There has been very little movement on a Lac Lobeke Reserve project except for studies. Various studies have been conducted by various organizations, but little concrete action has yet to be taken. This area is extremely rich in wildlife, probably the richest in Cameroon. There are currently several known bands of poachers that now operate in the area with impunity. The only thing that provided some protection was the safari hunting operations which were there until 1993. At present thousands, if not tens of thousands, of animals are being illegally taken out of the zone every year.

The Nouabale-Ndoki Project, with the help of Buddy Powell in Cameroon, may be able to obtain research permission to work on the west side of the Sangha River. We plan on doing a bush meat survey which will attempt to quantify the problem. In addition this will give us a foothold in Cameroon by which we can freely go to the local Eaux et Forets authorities in the area to report on poaching, and possibly, to collaborate in anti-poaching missions.

Recommendations:

When the tri-national conference finally takes place it would be desirable to request that the

Cameroonian government assign an agent from Eaux et Forêts to the logging concession in Libongo on the Sangha River. This would greatly facilitate both the Dzanga-Sangha and Nouabale-Ndoki Project's ability to control transfrontier poaching rings. Several of the elephant poachers who now poach in the Ndoki Park in the CAR and in the adjacent areas of Nouabale-Ndoki are based in Libongo, Cameroon.

4. German Bilateral Technical Assistance (GTZ).

After long negotiations a memorandum of understanding was signed between the Ministry of Eaux et Forêts, the Nouabale-Ndoki Project and GTZ in late 1992. In early 1993 GTZ started a project identification phase for a buffer zone project. This phase was to last one year but has now been extended through June of 1994. The GTZ consultant has used the first year to travel throughout the region and to talk to all parties concerned in order to gain an overall impression of what can and can not be done in this sector. It is felt that the consultants ideas are very close to those of the project and we are confident that the final report will reflect the project's point of view on how, and whether or not the GTZ buffer-zone component should become a reality. In the meantime GTZ has not been able to contribute in a material way to the project other than in a few domains, such as for some of the classement missions.

5. Kyoto University.

In 1992 a memorandum of understanding was signed between Dr. Kuroda of Kyoto University and the Nouabale-Ndoki Project. This document spells out the terms of collaboration between the two organizations. Since December 1992 no Japanese have been present at the site thus there has been little interaction between the two organizations since that time. It must be stressed that this memorandum of understanding is extremely important, as without it, there is no real basis for the organization of research activities in the Nouabale-Ndoki National Park. Without very rigorous screening of research to be carried out in Ndoki, it is very highly possible that this could have very negative impacts on the overall conservation program. We believe that all research projects must pass through the research committee and be accepted before they are allowed to proceed to the funding and implementation stages. This was a major point agreed upon in the memorandum of understanding with Kyoto University, and we consider it a necessary step to assure all research is harmonious with the conservation and management goals of NNNP.

6. NGO's

During the National Conference dozens of NGO's were created in Congo. Several of these were created with the idea that they would be conservation-oriented NGO's. The Nouabale-Ndoki Project has had close dealings with most of these organizations since its inception and has even made an attempt to take more direct action in the creation of an NGO in Ouessou called Sangha Action Biodiversite.

In general we have found that these organizations are more social or political than functional,

and have yet to observe any practical grassroots activity. The organization in Ouessou, after a good start provided mostly by the project, has been disappointing perhaps because they were motivated by the wrong reasons and found it impossible to get activities off the ground without direct intervention and funding from the project. This has been typical of all conservation NGO's in Congo.

Recommendation:

It is difficult to make a suggestion in this domain. If NGO's are to be grass roots and come from the people they should not receive financial assistance from the project. Yet if they do not have some form of subsidy they do not function. It is very difficult to force commitment. Perhaps the evaluation team can suggest an appropriate strategy.

V. Evaluation and Monitoring

A. Formal Evaluation

The first formal evaluation of the Nouabale-Ndoki Project will occur in Jan 1994, just about two years after the start of the project. A report should be available 30 days after completion of this mission.

B. Reporting

The Nouabale-Ndoki Project submits a report every three months on all project activities. These have been very helpful in monitoring our activity and organizing what we have indeed accomplished over the last three months. We have missed only one of these reports, after which we submitted a six-month report. This was unavoidable due to the disruption caused by the civil strife in the Congo.

Recommendations:

It is suggested that the reporting be more in line with a monitoring type format as this would facilitate quantifying progress in each project activity.

C. Monitoring

A draft of a monitoring and evaluation document for the project has been written but this has yet to be implemented for lack of a finished product. It may be possible to get a finished product via discussion with the evaluators of the project.

If the terms of monitoring remain rudimentary, so that it is feasible to accomplish amongst the actual project activities, this would facilitate the task of monitoring progress. We do feel, however, that the impressions of those on the ground, which are reported in written form every three months, should be sufficient to monitor project progress if a monitoring program is proved

to be too expensive in manpower and time. In the original project proposal, one report every six months was what was agreed on as being adequate for monitoring of the project. The project now produces four instead of two reports a year.

BSP will finance a project to write the terms for biological and social monitoring of the projects in the tri-national area. This work should begin in late 1994. We have suggested that these funds be used to finance, as well as the monitoring protocol, the conference to be held between the tri-national reserves.

Accessory documents to be produced:

Revised terms of reference for all upper-management personnel in project.

Revised organogram for upper-management personnel in project.

Revised project research document which spells out research projects to be undertaken by project with specific methodologies.

Research policy document for NNNP.

Tourism policy document.

Intern, volunteer and student policy document for NNNP.

Draft of internal regulations for NNNP and buffer zones.

Terms of Reference for following consultants to be hired by project in 1994 and 1995.

Economic ramifications of project and modus operandi to control growth.

Social ramifications of project and modus operandi to avoid deterioration of conservation goals as a result of uncontrolled development in the project area.

Background information on project area.

Tourism feasibility and impact study

Hunting safari feasibility and impact study

Floristic inventory and ground-truthing of TM imagery

Elephant monitoring

Management plan for national park and surrounding zones.

Postscript:

Since the writing of this document in November and early December of 1993 the civil unrest in Congo has continued to intensify. This unrest is confined primarily to Brazzaville, and has not yet reached the center of town or the airport. Concurrent with this political unrest the economic situation in the country has continued to deteriorate. This includes the obstruction of the railroad between Brazzaville and Point Noire, which is the lifeline between the ocean and the capital. This has created not only a food and fuel crisis, but it has rendered it impossible for most businesses to acquire goods forcing many out of business. This has also made it impossible for logging companies to export wood through Brazzaville. A number of embassies and international organizations have already removed their personnel from the Congo. The U.S. Embassy will undoubtedly be evacuating non-essential personnel from Brazzaville in the near future.

It is the opinion of the CFC direction that, in light of the current situation, we must actually revise project objectives and our project infrastructure and activities. There is little likelihood that political unrest will spread to the far north of the country. It is extremely far removed geographically, politically, economically and culturally from what is going on in the south of the country. It is our opinion that the project can continue to execute the bulk of its proposed activities in the Nouabale-Ndoki National Park area. The project base in Bomassa is now more or less completed and all materials for the Ndoki camp have been purchased and are stored in Bomassa. Construction of the research camp can proceed unobstructed. At present the bulk of project materials, fuel, and food are purchased either locally or from adjacent Cameroon. We do not expect any change in this arrangement.

In light of the continually worsening situation in Congo and the probability that it will become impossible to work in Brazzaville in the coming months for an extended period of time we strongly recommend that the evaluation team make reassessment of project goals and activities its primary goal during the evaluation.

At present we would recommend that the evaluation team make strong recommendations in the following subject areas:

1. GEF and GTZ components. Should these two project activities go forward and in what form and at what funding levels?

It is the opinion of the project direction that at least the GEF project component be put on hold for the time being. The GTZ activity, which is still not defined should make the current reality a central theme in planning this activity.

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2. Brazzaville office. Should the project close its operation in Brazzaville? Is this feasible vis a vis the GOC and operations in the north of the country? Should we maintain a presence in Brazzaville? How would the project in general need to change to respond to this lack of presence in the capitol city? Is it feasible to change the location of the project administrative base to Bangui, Central African Republic? Could this be carried out in concert with the current GTZ presence in the area? Could we more effectively integrate management of a tri-national park under this arrangement? Could the project Cessna 182, which has not yet been purchased, be based in Bayanga for joint use with the two conservation projects? How could we arrange the legality and politics of working in Bangui with the Congolese Government?

It is the opinion of the CFC project direction that conditions have deteriorated to such an extent in Brazzaville that it is now necessary to close our operation in Brazzaville. It is our belief because of a long history of working in the Central African Republic by the project director and support that has been offered by GTZ, especially in view of the fact that the principal GTZ advisor is also the senior advisor to the Minister of Eaux et Forêts in Bangui. We are confident that we could also piggy-back our activities on those of the WWF project in the Dzanga-Sangha Reserve. This would perhaps act to solidify the relationship between the two project which has been lacking until present mostly because of physical isolation. More effective collaboration on conservation, logistics, research and several other project activities should be possible.

3. Project activities. It would be necessary to revise the overall project optic. Political turmoil has rendered most non-National Park area activities very difficult to execute. In addition logging, which is the principal threat to ecosystems in northern Congo, has considerably diminished in the past two years, with several companies going out of business. The current project was designed based on peace in Congo and on projected expansion of the logging industry in northern Congo, instead we have seen the reverse. Continually intensifying unrest in Brazzaville led us to conclude that we must down-scale or temporarily curtail non-National Park area activities. While noting that changes in the political and market forces could make it possible for logging to expand very rapidly in the next several years, we must revise project activities to fit the current reality while at the same time recognizing that eventually logging will again become the principal agent of change in northern Congo. We must remain resilient in the level of our activity based on the threats to ecosystems. Because the logging industry is more subject to political turmoil than the project, we have the advantage of being able to survive in times of crisis better than they do. On the other hand we must be able to react as fast as the logging industry if conditions change and threats become more intense. The bottom line being project activity must be able to match threats, and at all costs we must maintain our presence in the project area. Non-National Park activities could be reinstituted if conditions permit.

Currently we must consider immediate down-sizing of the project in response to the present situation. We must also consider curtailing project activities which are based at the national or regional levels. We must make sure that this will be possible, while still maintaining a coherent relationship with the GOC; we believe that it is.

4. Personnel. Considerable revision of project personnel roles and size in the project was to

come from the evaluation. While this should still be the case, it should be done in the context of the current reality. This would include the program to be proposed for recruitment of volunteers and interns for the project, research plans and a variety of other activities that would require additional personnel.

5. Budget. While we will request that the USAID grant to the project be maintained, we would make budgetary revisions based on what is decided as far as which project activities to maintain, the legality of spending USAID funds outside of Congo, and gaps to be left if we decide to put the GEF budget on hold.

Conclusion: The current evaluation should be used to make firm decisions on revision of all project objectives, as presented in the above document. Project components should be looked at one by one a decisions should be forthcoming before the end of the evaluation.